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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/820,262	03/28/2001	Yasushi Miyajima	YKI-0065	1979

23413 7590 10/24/2002

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BLOOMFIELD, CT 06002

EXAMINER

ZAMANI, ALI A

ART UNIT	PAPER NUMBER
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2674

DATE MAILED: 10/24/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

11

Office Action Summary

Application No.

09/820,262

Applicant(s)

MIYAJIMA ET AL.

Examiner

Ali A. Zamani

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 03-28-01.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 12 is/are rejected.
- 7) ☒ Claim(s) 2-11 and 13-22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanbara (US Pat. No. 5,657,040) in view of Kim (US Pat. No. (6,414,670 B1).

In regard to claims 1 and 12, Kanbara teaches an active matrix type display device, comprising: a plurality of gate lines; a plurality of data lines crossing plurality of gate lines; a plurality of pixel electrodes; a thin film transistor disposed at each intersection between plurality of gate lines and plurality of data lines, and including a gate electrode and active region (see Fig. 2), gate electrode being connected to one of plurality of gate lines, and active region having a first region connected to one of plurality of data lines and a second region connected to a corresponding one of plurality of pixel electrodes; and a gate line driver (23) for sequentially applying a gate selection signal (col. 4, lines 53-59) with a pulse-shaped voltage waveform to a selected one of plurality of gate lines (see Figs. 6A-6I). Kanbara substantially teaches the above claimed limitations except for teaching a "gate line driver causes a falling edge of selection signal with pulse-shaped voltage waveform to be smoother than a rising edge thereof". However, Kim teaches a gate driving circuit in a liquid crystal display is disclosed which can minimize a power consumption by avoiding unnecessary drive of gate line drivers, the gate driving circuit which is to be used in a liquid crystal panel with TFTs and pixel electrodes for displaying an

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image includes a plurality of gate driving signal to the gate line, and clock generation controlling units provided to correspond to the gate line drivers for controlling a timing of the clock signal to respective gate line drivers to control a driving timing of gate line drivers (see Fig. 8, col. 5, lines 1-62). Kim also teaches that the clock signal (clk1) used as a CPV signal to the first gate line driver (81-1) is provided only between a rising edge of the STV1 signal and a falling edge of the STV2 signal, accordingly, triggered at a rising edge of the (clk1) signal, signals (out1-out154) are provided to the gate lines in succession (see col. 5, lines 27-60). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention by utilizing the gate driving circuit of Kim in the display device of Kanbara to provide a gate driving circuit in a liquid crystal display with minimized power consumption by eliminating the unnecessary driving of gate line drivers.

Claims 2-11 and 13-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art does not teach an active matrix type display device, comprising: a plurality of gate lines; a plurality of data lines crossing said plurality of gate lines; a plurality of pixel electrodes; a TFT, a gate line driver includes a gate buffer provided at a final stage and connected to a corresponding one of said plurality of gate lines, said gate buffer includes a transistor having first and second regions of an active layer respectively connected to the ground and to said corresponding gate lines, and the condition, $2.5 (R1 + R2) * (C1 + C2) < t < 5 (R1 + R2) * (C1 + C2)$, is satisfied.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ali ²Amami whose telephone number is (703) 308-6414. The examiner can normally be reached on Monday through Friday from 8:00 a.m. to 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard A. Hjerpe, can be reached on (703) 305-4709.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, DC 20231

or faxed to:

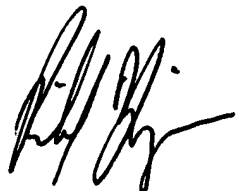
(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Ali Zamani

October 18, 2002


RICHARD HJERPE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600